

47. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising the steps of:

obtaining a cell sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual,

wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

48. (New) A method for detecting APC-resistance in an individual comprising the steps of:

obtaining a DNA sample from the individual; and

determining the presence of at least one Factor V gene mutation in the individual,

wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

49. (New) The method of claim 46, 47 or 48, wherein the Factor V gene mutation is a neutral polymorphism.

50. (New) The method of claim 46, 47 or 48, wherein said determining step comprises sequencing the Factor V gene.

51. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a normal Factor V gene.

52. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.--

### REMARKS

Claims 1-39 and 43 have been canceled. New claims 44-52 have been added.

Upon entry of this paper, claims 40-42, 44-52 will be pending in this application. Basis

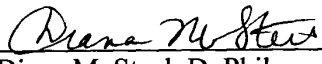
Inventor: Dahlbäck  
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Page 4 of 9

for new claims 44-52 may be found, for example, in claims 40, 41 and 42 as originally filed and on page 20, lines 7-23. Applicant believes that no new matter has been introduced by the new claims. Early favorable action is respectfully solicited.

Respectfully submitted,

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**MARKED UP VERSION OF CLAIMS AS AMENDED**

40. (Amended) [Method to determine for] A method for determining if an individual has a predisposition to develop thrombosis due to inherited APC-resistance caused by a gene mutation[mutation(s)], said method comprising the step of:

[determining for] detecting in a cell sample from the individual [occurrence] the occurrence of a Factor V gene mutation [mutation(s), which mutation(s) is (are) located in one or more nucleic acid fragment(s) and/or sequences of the Factor V gene, said mutations giving];

wherein the mutation gives rise to the expression of a mutated Factor V/Va molecule, which expression is associated with the expression of APC-resistance and[, thus,] a predisposition to develop thrombosis.

41. (Amended) [Method] The method of claim 40, wherein the [said mutation(s) is (are) determined] mutation is detected as an abnormal absence or presence of a nucleic acid [fragment(s) and/or sequence(s)] fragment or abnormal sequence in the Factor V gene[caused by the said mutation(s)], wherein the mutation is detected using [current methods, such as methods based on] nucleic acid hybridization, [assays, nucleic acid sequencing, or immunoassays, being used.]

42. (Amended) [Method] The method of claim 40, wherein the [said mutation(s) is (are)] mutation is determined indirectly based on linkage thereof to a neutral polymorphism in the Factor V gene.

44. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using nucleic acid sequencing.

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45. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using an immunoassay.

46. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising determining the presence in the individual's Factor V gene sequence of at least one mutation and comparing the individual's Factor V gene sequence to a normal Factor V gene sequence.

47. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising the steps of:  
obtaining a cell sample from the individual; and  
determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

48. (New) A method for detecting APC-resistance in an individual comprising the steps of:  
obtaining a DNA sample from the individual; and  
determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.

49. The method of claim 46, 47 or 48, wherein the Factor V gene mutation is a neutral polymorphism.

50. The method of claim 46, 47 or 48, wherein said determining step comprises sequencing the Factor V gene.

51. The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a normal Factor V gene.

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52. The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.

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**CLEAN COPY OF THE CLAIMS**

40. (Amended) A method for determining if an individual has a predisposition to develop thrombosis due to inherited APC-resistance caused by a gene mutation, said method comprising the step of:
- detecting in a cell sample from the individual the occurrence of a Factor V gene mutation;
  - wherein the mutation gives rise to the expression of a mutated Factor V/Va molecule, which expression is associated with the expression of APC-resistance and a predisposition to develop thrombosis.
41. (Amended) The method of claim 40, wherein the mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence in the Factor V gene, wherein the mutation is detected using nucleic acid hybridization.
42. (Amended) The method of claim 40, wherein the mutation is determined indirectly based on linkage thereof to a neutral polymorphism in the Factor V gene.
44. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using nucleic acid sequencing.
45. (New) The method of claim 40, wherein the Factor V gene mutation is detected as an abnormal absence or presence of a nucleic acid fragment or abnormal sequence caused by the mutation, wherein the Factor V gene mutation is detected using an immunoassay.
46. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising determining the presence in the individual's Factor V gene sequence of at least one mutation and comparing the individual's Factor V gene sequence to a normal Factor V gene sequence.

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47. (New) A method for detecting a predisposition to developing thrombosis in an individual, said method comprising the steps of:
- obtaining a cell sample from the individual; and
  - determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.
48. (New) A method for detecting APC-resistance in an individual comprising the steps of:
- obtaining a DNA sample from the individual; and
  - determining the presence of at least one Factor V gene mutation in the individual, wherein the presence of the Factor V gene mutation is indicative of an increased risk of thrombosis.
49. (New) The method of claim 46, 47 or 48, wherein the Factor V gene mutation is a neutral polymorphism.
50. (New) The method of claim 46, 47 or 48, wherein said determining step comprises sequencing the Factor V gene.
51. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a normal Factor V gene.
52. (New) The method of claim 46, 47 or 48, wherein said determining step comprises nucleic acid hybridization to a reagent specific for a Factor V gene that comprises at least one mutation associated with APC-resistance.